CIO POLICY TRANSMITTAL 06-001

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Policy Title: **ENTERPRISE ARCHITECTURE POLICY**
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Supersedes: Enterprise Architecture Policy dated 3/14/2005

Purpose:

The purpose of this U.S. Environmental Protection Agency (EPA) Enterprise Architecture Policy is to establish the EPA Enterprise Architecture Program in order to maximize the business value of EPA's investment in information technology and minimize the amount of unnecessary redundancy resulting from disparate planning and development efforts. This policy:

a. Establishes the governance of EPA's Enterprise Architecture Program;

b. Sets direction for how the Enterprise Architecture will be developed and maintained;

c. Establishes how information technology (IT) investments will be evaluated for compliance with the Enterprise Architecture.

The purpose of the Enterprise Architecture created and maintained by the Enterprise Architecture Program is to:

a. Serve as the vehicle to align EPA's information management planning with EPA's current business processes, strategic planning, human capital planning, organizational structures, information management programs, and budget and capital investments with the EPA's mission, goals, and objectives;

b. Support changes and enhancements to the Agency's business, as directed by Congress or the President, and in response to the Administrator's priorities and program office and regional initiatives;

c. Support and enhance information system development and practices to allow EPA and its partners to assess environmental and human health information with a holistic view;

d. Promote public access to environmental information through the effective use of information technology; and

e. Provide definitive direction to the Agency's managers on the planning for all information management and information technology decisions.

Audience: This Policy applies to all EPA personnel, agents or others authorized to work or conduct business for EPA. Further, this policy applies to Agency partners, EPA contractors and recipients of EPA financial assistance (e.g., grants and Interagency Agreements (IAGs)).

Background: The Clinger-Cohen Act of 1996, Executive Order 13011, and various Office of Management and Budget (OMB) Circulars (see Authorities), require federal agencies to establish Enterprise Architecture programs and focus on the results achieved through capital investments, while streamlining the federal information technology procurement process.

EPA has implemented an Enterprise Architecture that must be maintained and updated under formal direction and governance, align with the Federal Enterprise Architecture, and support Presidential initiatives and Executive Orders.

In December 2002, EPA adopted guiding principles for the Enterprise Architecture. Those principles, and any subsequent revisions to them, will serve as the foundation for this Policy, related procedures, standards, guidance materials, and all future revisions (see intranet.epa.gov/architec).

Policy: **I. Governance and General Practice**

There is one authoritative Enterprise Architecture for the Agency issued by the Chief Information Officer (CIO).

The Enterprise Architecture provides a model of the Agency's strategic direction, organizational programs and projects, lines of business, information technology portfolio (i.e., data, applications, and technologies), security measures, and the inter-relationships among them. It is maintained to provide support for the Agency's strategic planning, budget formulation and execution, information technology capital planning, information technology acquisition, human capital, and security planning processes.

The Enterprise Architecture serves as a subcomponent of the Federal Enterprise Architecture and is therefore maintained in alignment with Federal Enterprise Architecture and e-Government requirements.

The CIO ensures that System Life Cycle policies and procedures, and all other policies or procedures that support or implement aspects of Enterprise Architecture, are aligned with and consistent with this policy and its related procedures, technical standards and guidelines.

The CIO governs the Enterprise Architecture Program under this Policy and its related procedures are issued by the CIO or his/her designee after coordination through the Enterprise Architecture Coordination Workgroup (EACWG), the concurrence of the Quality and Information Council (QIC) Steering Committee (SC) (and if deemed necessary by the QIC SC, the QIC itself) in accordance with each groups' established procedures. This ensures Agency-wide involvement and support in developing the EA implementing procedures.

Technical standards and guidelines are also issued by the CIO or his/her designee after consultation through the EACWG and the Quality Technology Subcommittee (QTS).

Compliance with this policy, and its associated procedures and technical standards shall be mandatory. However exceptions or waivers from the policy, procedures, and/or technical standards shall be addressed to the CIO or his/her designee through the established EA procedures. The procedures will include the right of any office to appeal a CIO decision to the Deputy Administrator as outlined in the QIC Charter.

II. Enterprise Architecture Development and Approval

The Enterprise Architecture shall include a Baseline Architecture that describes the current state of the Agency Enterprise Architecture and a Target Architecture that describes its desired future state (see Definitions).

Information security shall be a primary consideration in the development and implementation of the Enterprise Architecture.

The Enterprise Architecture and any Component Architectures (see Definitions) shall be developed in conformance with the Federal Enterprise Architecture utilizing a common framework and methodology agency-wide.

A Sequencing Plan (see Definitions) shall be maintained and periodically updated. The Sequencing Plan describes key planning and implementation activities necessary to migrate business processes, information resources, and supporting information management systems to the approved Target Enterprise Architecture.

The Enterprise Architecture and its sub Component Architectures are approved by the CIO.

III. Enterprise Architecture Maintenance and Toolset Usage

The Enterprise Architecture shall be maintained and periodically updated to demonstrate the alignment of EPA's business functions, information assets, and information technology capital investments with the Agency's strategic and budgetary plans.

The Enterprise Architecture shall be maintained under version and configuration control within the Agency's Enterprise Architecture repository and tool set.

All versions of the Enterprise Architecture repository and toolset maintained to support Component Architectures shall be interoperable with, and recorded within, the Agency's Enterprise Architecture repository and toolset.

IV.   IT Investment Compliance with Enterprise Architecture

All EPA information management and technology development, modernization, enhancement, and acquisitions shall conform with the Enterprise Architecture and comply with applicable Enterprise Architecture requirements of the Capital Planning and Investment Control (CPIC) and Agency budget process, as published in periodic procedures, technical standards, and guidelines.

All information management and technology development, modernization, enhancement, and acquisitions shall develop a Solution Architecture (see Definitions) documenting the alignment of the proposed project with the Enterprise Architecture.

Solution Architectures shall be certified as architecturally compliant prior to project development unless the appropriate waiver is obtained.

All IT systems, applications, data, and metadata shall be recorded within an authoritative inventory as specified by procedures or standards published pursuant to this Policy.

Roles and

Responsibilities:

EPA Administrator: The Administrator is the champion of the Enterprise Architecture, responsible for communicating its value as an enterprise management tool.

Assistant Administrators and Regional Administrators: The Assistant Administrators and Regional Administrators shall ensure that their organizations actively participate with the Chief Architect and comply with the target architecture. They may also develop Component Architectures (see Definitions) in alignment with the Enterprise Architecture.

Chief Information Officer (CIO): The CIO is responsible for the Enterprise Architecture Program, providing strategic direction, and enforcing its requirements. The CIO establishes, maintains, and

approves the Enterprise Architecture. The CIO, or designee, supplements this Policy by approving procedures, technical standards, and guidelines.

Chief Financial Officer (CFO): The CFO is the responsible authority for: (a) all architectural considerations required under the Chief Financial Officers Act of 1990 (the CFO Act) and (b) coordinating with the CIO to ensure that the Enterprise Architecture and the Capital Planning and Investment Control processes support the Agency's strategic and budget planning processes. The CFO remains responsible for the Agency strategic and budget planning processes. This policy does not supersede those authorities.

Chief Technology Officer (CTO): The CTO is responsible for issuing procedures, technical standards, and guidelines associated with the Enterprise Architecture.

Chief Acquisitions Officer (CAO): The CAO is responsible for ensuring that information technology services contracts contain requirements for compliance with the Enterprise Architecture.

Assistant Administrator for Administration and Resources Management: The Assistant Administrator for Administration and Resources Management is responsible for ensuring that information technology grants and IAGs contain requirements for compliance with the Enterprise Architecture.

Chief Architect (CA): The CA is responsible for providing direction to the Enterprise Architecture development and maintenance, and ensuring its coordination with the Federal Enterprise Architecture and EPA's information management collaborations with state, local, and tribal partners. The CA is also responsible for certifying that Solution Architectures developed for information management and technology development, modernization, and enhancements, are compliant with the Enterprise Architecture.

Enterprise Architecture Coordinating Workgroup (EACWG): The EACWG is the deliberative body of the Environmental Protection Agency's Enterprise Architecture (EA) program. The EACWG ensures the coordinated development and maintenance of the agency's architecture through review and recommendation to the Chief Architect. Members of the EACWG champion the use of and compliance with EA and act as communication liaisons with their specific program offices and regions.

Quality and Information Council (QIC): The QIC's primary focus is on addressing and resolving intra-agency cross-media, cross-program, and interdisciplinary information technology/information management

and related policy issues. The QIC is comprised of SES-level managers from Agency programs offices as well as the lead and back-up Regions for Information Technology. It is chaired by the Agency's CIO. The QIC meets quarterly, and may meet more frequently if necessary, to address issues and recommendations made by the QIC Steering Committee or QIC subcommittee(s).

Quality and Information Council Steering Committee (QIC SC): The primary role of the QIC SC is to assist the QIC in the development of the IT/IM and related policy agenda. This agenda will serve as the "roadmap" for policy topics to be addressed by the QIC. Additionally, the QIC SC is charged with resolving issues that do not warrant the QIC's attention or that are specifically delegated to the QIC SC (such as establishment of procedural or guidance documents in support of a given policy). It also includes support of QIC activities and outreach and implementation of QIC decisions. The QIC SC is comprised of managers, senior staff from programs offices as well as the lead and back-up Regions for Information Technology. The QIC SC meets monthly to help develop the agenda for the QIC and to manage ongoing QIC efforts.

Definitions:

Architecture: The structure of components, their interrelationships, and the principles and guidelines governing their design and evolution over time.

Baseline Architecture: The set of products that portrays the existing enterprise, the current business practices, and technical infrastructure. Commonly referred to as the "as-is" architecture.

Component Architecture: A Component Architecture is an architectural subdivision established to facilitate the development and maintenance of specialized areas of the Enterprise Architecture, such as those related to a particular business function or technical capability. All Component Architectures must be consistent and upwardly compatible with the EPA Enterprise Architecture, which is itself a Component Architecture of the Federal Enterprise Architecture.

CPIC Process: The Capital Planning and Investment Control (CPIC) process, mandated by the Clinger-Cohen Act of 1996, is a systematic approach to selecting, managing, and evaluating information technology investments that requires federal agencies to focus on the results

achieved through information technology investments.

Enterprise: An organization (or cross-organizational entity) supporting a defined business scope and mission. An enterprise includes interdependent resources (e.g., people, organizations, and information technology) that must coordinate their functions and share information in support of a common mission (or set of related missions).

Enterprise Architecture: A strategic information asset base that provides a definition of the mission, the information and technologies necessary to perform the mission, and transitional processes for implementing new technologies in response to changing mission needs. An enterprise architecture includes a baseline architecture, target architecture, and a sequencing plan.

Information Technology: Applied computer systems, both hardware and software, and often including networking and telecommunications, usually in the context of a business or other enterprise. Often the name of the part of the enterprise that deals with all things electronic.

Repositories and Tools: A collection of databases, architectural and modeling tools, and other electronic support for developing, modeling, managing, analyzing, and publishing the Enterprise Architecture baseline architecture, target architecture, and sequencing plan. Collectively, the Enterprise Architecture repositories and tools comprise the strategic information asset base of the Enterprise Architecture.

Sequencing Plan: A document that defines the strategy for changing the enterprise from the current baseline to the target architecture. It schedules multiple, concurrent, interdependent activities and incremental builds that will evolve the enterprise.

Solution Architecture: A Solution Architecture describes how an individual information management system, or information acquisition will comply with the requirements of the Target Architecture.

Target Architecture: The set of products that portray the future or end-state enterprise, generally captured in the organization's strategic thinking and plans. Commonly referred to as the "to-be" architecture.

Authorities: See Appendix A

Related Documents: See Appendix B

Recertification Date:

Additional

Information: For further information about this Policy, see www.intranet.epa.gov/architec, or contact the Chief Architect in the EPA Office of Environmental Information, Office of Technology Operations and Planning, Mission Investment Solutions Division.

Appendix A
Authorities

a. The Clinger-Cohen Act of 1996 (also known as the Information Technology Management Reform Act of 1996) (Pub. L. 104-106, Division E);

b. The Government Performance and Results Act of 1993 (GPRA) (Pub. L. 103-62);

c. The Chief Financial Officers Act of 1990 (31 U.S.C. 3512 et seq.);

d. The Federal Information Security Management Act of 2002 (which amends the Computer Security Act of 1987 (Pub. L. 100-235));

e. The Paperwork Reduction Act of 1995 (Pub. L. 104-13);

f. The Government Paperwork Elimination Act of 1998 (Pub. L. 105-277, Title XVII);

g. The E-Government Act of 2002 (Pub. L 107-347);

h. The Rehabilitation Act of 1998 (Pub. L. 105-220);

i. The Federal Managers Financial Integrity Act (FMFIA) of 1989 (Pub. L. 97-255);

j. The Federal Financial Management Improvement Act (FFMIA) of 1996 (Pub. L. 104-208);

k. The Privacy Act, as amended (5 U.S.C. 552a);

l. The Budget and Accounting Act, as amended (31 U.S.C. Chapter 11);

m. The Federal Acquisition Streamlining Act (FASA) of 1994;

n. The President's Management Agenda, Office of Management and Budget, Fiscal Year 2002;

o. Executive Order 13011, Federal Information Technology, FR 61-140, July 19, 1996;

p. OMB Circular A-11, Preparation, Submission and Execution of the Budget, revised July 25, 2003;

q. OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, revised January 22, 2002;

r. OMB Circular A-123, Management Accountability and Control, dated June 21,1995;

s. OMB Circular A-127, Financial Management Systems, dated July 23, 1993;

t. OMB Circular A-130, Management of Information Resources, dated November 28, 2003.

Appendix B
Related Documents

a. U.S. Environmental Protection Agency: *2003 Strategic Plan*, September 30, 2003;

b. U.S. Environmental Protection Agency*: Human Capital Strategic Plan*, December 2003;

c. U.S. Environmental Protection Agency: *Baseline Architecture*, September 2002;

d. U.S. Environmental Protection Agency: *Target Architecture*, December 2002;

e. U.S. Environmental Protection Agency: *Enterprise Architecture Status Report 2003*, September 2003;

f. *Performance Reference Model (PRM) Version 1.0, Vols. 1 & II,* Federal Enterprise Architecture Program Management Office, September 2003;

g. *Business Reference Model (BRM) Version 2.0,* Federal Enterprise Architecture Program Management Office, June 2003;

h. Data Reference Model (undated draft);

i. *Service Component Reference Model (SRM) Version 1.0*, Federal Enterprise Architecture Program Management Office, June 2003;

j. *Technical Reference Model (TRM) Version 1.1*, Federal Enterprise Architecture Program Management Office, August 2003;

k. *U.S. EPA IT Roadmap and Standards Profile*;

l. *Information Resources Management Policy Manual*, EPA Directive 2100B8;

m. *Interim System Life Cycle (SLC) Policy*, Directive 2100.4;

n. *Interim System Life Cycle (SLC) Procedure*;

o. *Data Standards Policy;*

p. EPA Acquisition Regulation, Information Resources Management clause;

q. *Capital Planning and Investment Control (CPIC) Policy*, Directive 2100.2al

r. *Procedure: Obtaining a Waiver from an EPA IT Requirement*.